

WHAT IS CLAIMED IS:

1. In a computer system having a display, a mouse, and a keyboard, a computer-readable medium having computer-executable instructions for performing steps comprising:

receiving a mouse message indicative of a mouse event;

identifying at least one focus application as having a current keyboard focus, the current keyboard focus such that keyboard messages indicative of keyboard activity are sent to the focus application;

converting the mouse message into a command for the focus application; and

sending the command to the focus application;

2. The computer-readable medium of claim 1 wherein the steps of identifying the focus application, converting the mouse message, sending the command and preventing the mouse message from being routed to other applications is performed based on computer-readable instructions associated with a message hook procedure.

3. The computer-readable medium of claim 1 wherein the command is placed in the form of at least one keyboard message representing at least one activity of a key on the keyboard.

4. The computer-readable medium of claim 1 wherein the mouse message is indicative of a button on the mouse being depressed.

5. The computer-readable medium of claim 4 wherein the command causes the focus application to undo a

function that was performed by the focus application prior to the command being sent to the focus application.

6. The computer-readable medium of claim 4 wherein the command causes the focus application to page downward through a displayed document.

7. The computer-readable medium of claim 4 wherein the focus application is an Internet browser and the command causes the Internet browser to page backward to display a previously displayed Internet page.

8. The computer-readable medium of claim 7 wherein the command is in the form of at least one keyboard message representing at least one activity of a key on the keyboard.

9. The computer-readable medium of claim 1 wherein the mouse message is indicative of a button on the mouse being depressed and the command causes the focus application to repeat a function that was previously undone by the focus application.

10. The computer-readable medium of claim 1 wherein the mouse message is indicative of a button on the mouse being depressed and wherein the command causes the focus application to page upward through a displayed document.

11. The computer-readable medium of claim 4 wherein the focus application is an Internet browser and the command causes the Internet browser to page forward to display a previously displayed Internet page.

12. The computer-readable medium of claim 11 wherein the command is in the form of at least one key board message representing at least one activity of a key on the keyboard.

13. The computer-readable medium of claim 1 having computer-executable instructions for performing further steps comprising:

before converting the mouse message into a command for the focus application, determining if a graphical user interface is associated with the mouse message and focus application;

if a graphical user interface is associated with the mouse message and focus application, displaying the graphical user interface instead of converting the mouse message into a command for the focus application;

waiting for the user to select an item displayed in the graphical user interface;

converting the selected item into a command for the focus application; and

sending the command to the focus application.

14. The computer-readable medium of claim 13 wherein the graphical user interface is a pie menu.

15. The computer-readable medium of claim 13 having computer-executable instructions for performing further steps comprising:

before displaying the graphical user interface, waiting for a period of time;

receiving a second mouse message during the

period of time; and  
combining the mouse message and the second mouse  
message to identify a command for the focus  
application instead of displaying the  
graphical user interface; and  
sending the command to the focus application.

16. The computer-readable medium of claim 15 wherein  
the mouse message and the second mouse message are  
combined by comparing the position of the mouse given  
by the second mouse message to the position of the  
mouse given by the mouse message to produce a change  
in mouse position.

17. The computer-readable medium of claim 16 wherein  
the command is identified by comparing the change in  
mouse position to a change in mouse position required  
to select an item displayed in the graphical user  
interface when the graphical user interface is  
displayed.

18. The computer-readable medium of claim 17 wherein  
the graphical user interface is a pie menu.

19. In a computer system capable of executing  
instructions and generating images on a display, a  
mouse and a computer-readable medium having computer-  
executable instructions for performing steps  
comprising:

generating at least one of five mouse input  
values, each mouse input value capable of  
having one of two states;  
executing an application that displays document  
pages in a temporally serial manner on a

display;  
identifying when a first mouse input value is in  
a first state; and  
causing the application to display a previously  
displayed document page based in part on the  
first mouse input value being in the first  
state.

20. The mouse and computer-readable medium of claim 19 further comprising further computer-executable instructions for performing the step of identifying when the first mouse input value is in a second state after identifying when the first mouse input value was in the first state and wherein causing the application to display a previous document page is based on the first mouse input value being in a first state and then in a second state.

21. The mouse and computer-readable medium of claim 19 wherein the first mouse input value represents the state of a switch and the first state indicates that the switch is closed.

22. The mouse and computer-readable medium of claim 20 wherein the first mouse input value represents the state of a switch and the second state indicates that the switch is open.

23. The mouse and computer-readable medium of claim 19 wherein each of the five mouse input values represents the state of a separate switch.

24. The mouse and computer-readable medium of claim 19 having further computer-executable instructions for

performing further steps comprising:

- generating a second mouse input value;
- identifying when the second mouse input value is in the first state; and
- causing the application to replace a currently displayed document page with a second previously displayed document page based in part on the second mouse input value being in the first state, the second previously displayed document page originally displayed after a currently displayed document page.

25. A computer-readable medium having stored thereon a data structure generated by a mouse, the data structure comprising:

- a first eight-bit byte having a first bit indicative of the state of a first button of the mouse, a second bit indicative of the state of a second button of the mouse, a third bit indicative of the state of a third button of the mouse, a fourth bit set to one, a fifth bit indicative of the direction of movement of the mouse along a first line, a sixth bit indicative of the direction of movement of the mouse along a second line perpendicular to the first line, a seventh bit indicative of an overflow condition related to the distance the mouse moved along the first line, and an eighth bit indicative of an overflow condition related to the distance the mouse moved along the second line;
- a second eight-bit byte that together with the fifth bit of the first eight-bit byte

represents the direction and distance the mouse moved along the first line, the second eight-bit byte containing all ones when the seventh bit of the first eight-bit byte is one and the fifth bit of first eight-bit byte is zero;

a third eight-bit byte that together with the sixth bit of the first eight-bit byte represents the distance the mouse moved along the second line, the third eight-bit byte containing all ones when the eighth bit of the first eight-bit byte is one and the sixth bit of first eight-bit byte is zero; and

a fourth eight-bit byte comprising first, second, third and fourth bits together representing an amount and a direction of angular rotation of a wheel on the mouse, a fifth bit representing the state of a fourth button on the mouse, and a sixth bit representing the state of a fifth button on the mouse.

26. A method in a computer system having a mouse and a mouse driver, the method comprising steps of:

the mouse driver receiving a mouse identification from the mouse;

the mouse driver determining if the mouse has at least four buttons based on the mouse identification;

the mouse driver passing at least one command to the mouse to activate a fourth button of the four buttons; and

the mouse activating the fourth button based on

the at least one command.

27. The method of claim 26 wherein the at least one command comprises a plurality of functional commands, each functional command when sent alone having a function separate from activating the fourth button.

28. The method of claim 26 further comprising steps of:

the mouse driver determining if the mouse has a wheel based on the mouse identification;  
the mouse driver passing at least one command to the mouse to activate the wheel; and  
the mouse activating the wheel.

29. The method of claim 26 wherein the mouse has at least five buttons and wherein based on the at least one command the mouse activates at least a fourth button and a fifth button.